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APPLICATION NO.	F	ILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO
10/098,679	. (03/15/2002	David John DiGiovanni	119.0008	5699
27997	7590	12/31/2003		EXAMINER	
PRIEST & GOLDSTEIN PLLC 5015 SOUTHPARK DRIVE				LIN, TINA M	
SUITE 230	II AKK D	KIVL		ART UNIT	PAPER NUMBER
DURHAM, NC 27713-7736				2874	

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)			
		10/098,679	DIGIOVANNI ET AL.			
	Office Action Summary	Examin r	Art Unit			
		Tina M Lin	2874			
Period fe	The MAILING DATE of this communication ap or Reply	pears on the cover sheet with the	he correspondence address			
THE - Exte after - If the - If NO - Failt - Any	ORTENED STATUTORY PERIOD FOR REPL MAILING DATE OF THIS COMMUNICATION. Insions of time may be available under the provisions of 37 CFR 1. SIX (6) MONTHS from the mailing date of this communication. e period for reply specified above is less than thirty (30) days, a reput present of the provision of the period for reply specified above, the maximum statutory period are to reply within the set or extended period for reply will, by statut reply received by the Office later than three months after the mailing ed patent term adjustment. See 37 CFR 1.704(b).	136(a). In no event, however, may a reply to be within the statutory minimum of thirty (30 will apply and will expire SIX (6) MONTHS e. cause the application to become ABAND	pe timely filed) days will be considered timely. from the mailing date of this communication. ONED (35 U.S.C. § 133).			
1)⊠	Responsive to communication(s) filed on <u>01 J</u>	<u>luly 2003</u> .				
2a) <u></u> □	This action is FINAL . 2b)⊠ This action is non-final.					
3)	Since this application is in condition for allowardosed in accordance with the practice under	ance except for formal matters, <i>Ex parte Quayl</i> e, 1935 C.D. 11	prosecution as to the merits is , 453 O.G. 213.			
Disposit	ion of Claims					
5)⊠ 6)⊠	Claim(s) <u>1-18</u> is/are pending in the application 4a) Of the above claim(s) is/are withdra Claim(s) <u>13-18</u> is/are allowed. Claim(s) <u>1-12</u> is/are rejected. Claim(s) is/are objected to. Claim(s) are subject to restriction and/o	awn from consideration.				
Applicat	ion Papers					
10)⊠	The specification is objected to by the Examine The drawing(s) filed on <u>15 March 2002</u> is/are: Applicant may not request that any objection to the Replacement drawing sheet(s) including the correct The oath or declaration is objected to by the Examine The specification is objected to be specification to the specification is objected to be specification.	a) accepted or b) objected or b) objected or b) objected or abeyance. Stion is required if the drawing(s) is	See 37 CFR 1.85(a). objected to. See 37 CFR 1.121(d).			
Priority (ınder 35 U.S.C. §§ 119 and 120					
* \$ 13)	Acknowledgment is made of a claim for foreig All b) Some * c) None of: 1. Certified copies of the priority document 2. Certified copies of the priority document 3. Copies of the certified copies of the priority document application from the International Bureat See the attached detailed Office action for a list acknowledgment is made of a claim for domest since a specific reference was included in the firat 7 CFR 1.78.) The translation of the foreign language process acknowledgment is made of a claim for domest beforence was included in the first sentence of the	ts have been received. Its have been received in Application of the certified copies not receive priority under 35 U.S.C. § 11 as t sentence of the specification ovisional application has been ic priority under 35 U.S.C. § 1	cation No eived in this National Stage eived. [9(e) (to a provisional application) or in an Application Data Sheet. received. [20 and/or 121 since a specific			
Attachmen	t(s)					
2) 🔲 Notic	e of References Cited (PTO-892) e of Draftsperson's Patent Drawing Review (PTO-948) nation Disclosure Statement(s) (PTO-1449) Paper No(s) <u>@</u>	5) Notice of Inform	ary (PTO-413) Paper No(s) al Patent Application (PTO-152)			
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DETAILED ACTION

The applicant's arguments have been carefully studied and re-evaluated by the examiner. The arguments advanced therein, considered together with the amendments made to the claims, are persuasive and the rejections based upon prior art made of record in the previous Office Action are withdrawn. In view of further search, however, and the consequent discovery of relevant prior art documents, a new rejection is set forth. This action is **not** made final.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 6-9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,654,531 B1 to Gruner-Nielsen et al. Gruner-Nielsen et al. discloses a dispersion compensation module with an input port and an output port that operates near the 1550 nm wavelength. Furthermore, a dispersion compensation fiber is spliced together with a transmission fiber, which is connected to input and output ports of a transmitter and receiver. But, Gruner-Nielsen et al. fails to disclose a dispersion compensating fiber to have a dispersion slope inflection point near the 1550 nm wavelength. Furthermore, Applicant defines the inflection point to be where the curvature changes from negative to positive and where the 2nd derivative is zero. Therefore, in figure 8, the inflection point appears to be approximately 1550 nm, at the peak of the curve, there the derivative is zero. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have designed a

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dispersion compensation fiber with a dispersion slope inflection point near 1550 nm. Gruner-Nielsen et al. also fails to disclose a dispersion compensating fiber to have a dispersion curve of the entire dispersion fiber and the individual fibers that substantially matches the relative dispersion curve of a transmission fiber over a bandwidth and each segment of the fibers to have a relative refractive index difference. However, it well known in the art to match dispersion curves of fibers to the dispersion curve of the transmission fiber for uniformity, therefore it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have a dispersion compensating fiber to have a dispersion curve of the entire dispersion fiber and the individual fibers that substantially matches the relative dispersion curve of a transmission fiber over a bandwidth.

Claims 5, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,654,531 B1 to Gruner-Nielsen et al l. as applied to claim 4 above, and further in view of U.S. Patent 6,304,691 to Espindola et al. In regards to claim 5, Gruner-Nielsen et al. discloses all stated above, but fails to disclose a wavelength bandwidth of more than 40 nm. But Gruner-Nielsen et al. fails to mention a value for a wavelength bandwidth. However, Espindola et al. discloses a bandwidth of 30 nm with the possibility of increasing the bandwidth by making the grating longer in the fiber. (Column 5) Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have a bandwidth of 40nm or greater. In regards to claims 10 and 11, Gruner-Nielsen et al. discloses a dispersion compensating fiber with a core and cladding region and a dispersion compensating fiber with a relative dispersion slope near the 1550 nm wavelength. But, Gruner-Nielsen et al. fails to mention the region to provide a relative slope that substantially matches a relative dispersion

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slops of a transmission fiber over at least a 40 nm wavelength bandwidth. However, Espindola et al. discloses a bandwidth of 30 nm with the possibility of increasing the bandwidth by making the grating longer in the fiber. (Column 5) Furthermore, it would be optimal to match the slopes of the transmission fibers and the relative slopes of the core and cladding region for uniformity and consistency. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have the core and cladding region to provide a relative slope that substantially matches the relative dispersion slopes of a transmission fiber over at least a 40 nm wavelength bandwidth.

Allowable Subject Matter

Claims 13-18 are allowed. The prior art of record fails to disclose or reasonably suggest a method for compensating the dispersion of an optical transmission line with the steps of mapping a relative dispersion slope, specifying a transmission wavelength, specifying an operating bandwidth and designing a dispersion compensating module having a relative dispersion slope that matches the relative dispersion slope of the fiber with an inflection point within the bandwidth. The closest prior art of record is U.S. Patent 6,654,531 B1 to Gruner-Nielsen et al. Gruner-Nielsen et al. discloses a dispersion compensation module with an input port and an output port that operates near the 1550 nm wavelength. Gruner-Nielsen et al. further discloses the inflection point appears to be approximately 1550 nm, at the peak of the curve; there the derivative is zero. But, Gruner-Nielsen et al. fails to disclose the step of mapping a relative dispersion slope and specifically designing a module with a relative dispersion slope to match the one of the transmission fiber with an inflection point at the specified bandwidth.

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Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments, filed 1 July 2003, with respect to the rejection(s)of claim(s) 1-12 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made above.

The documents submitted by applicant in the Information Disclosure Statement have been considered and made of record. Note attached copy of form PTO-1449. None of the documents submitted by Applicant discloses or reasonably suggests the allowed subject matter disclosed above.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. None of the documents cited discloses or reasonably suggests the allowed subject matter disclosed above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M Lin whose telephone number is (703) 305-1959. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

TML TML

Brian Healy rimary Examiner

Bon Healy